

# FYFANON<sup>®</sup> ULV

## INSECTICIDE



**CHEMINOVA AGRO A/S**  
P.O. Box 9, DK-7620 LEMVIG, DENMARK  
PHONE: (+45) 97-834100  
TELEX: 66514 CHEMV DK  
FAX: (+45)97-834555

FYFANON (MALATHION)  
FYFANON U.L.V.

A/S REG. NO.: 177.122  
MVF/01.08.90-FYFANON/USA  
(OSHA 174)

## MATERIAL SAFETY DATA SHEET

(Comply with OSHA's Hazard Communication Standard,  
29 CFR 1910.1200)

IDENTITY (as used on Label and List) . . . . . FYFANON TECHNICAL  
FYFANON U.L.V.  
MALATHION TECHNICAL

### SECTION I

Manufacturer's Name . . . . . Cheminova Agro A/S  
Address (Number, Street, . . . . . P.O. Box 9  
City, State, and ZIP Code) . . . . . DK-7620 Lemvig  
Denmark  
Emergency Telephone Number . . . . . Medical Emergency No: (800) 228-5635 ext. 153 (US)  
(+45)97-834100 or CHEMTREC  
toll-free (800)424-9300 (US)  
Telephone Number for Information . . . . . (+45)97-834100 or (800) 548-6113 (US)  
Date Prepared . . . . . 1st August, 1990

### SECTION II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity: Common Name(s)):	OSHA PEL:	ACGIH TLV:	Other Limits Recommended:	% (optional):
Malathion (0,0-Dimethyl-S-(1,2-di(ethoxy-carbonyl)-ethyl) phosphorodithioate)	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup> (skin)		Minimum 95%
CAS No. 121-75-5				Typical 96/97%

### SECTION III - Physical/Chemical Characteristics

Boiling Point . . . . .	156-157°C at 0.7 mm Hg (see, however, SECTION IV-Unusual Fire and Explosion Hazards).
Vapour Pressure (mm Hg) . . . . .	3.4 x 10 <sup>-6</sup> mm Hg at 25°C. 1.4 x 10 <sup>-4</sup> mm Hg at 45°C.
Vapour Density (AIR = 1) . . . . .	11.4.
Specific Gravity . . . . .	1.23 ± 0.01 at 20°C.
Melting Point . . . . .	2.85°C.
Evaporation rate (Butyl Acetate = 1) . . . . .	Negligible.
Solubility in Water . . . . .	148.2 mg/l at 25°C.
Appearance and Odour . . . . .	Colourless to pale yellow liquid with a slightly aromatic odour.

---

**SECTION IV - Fire and Explosion Hazard Data**

---

Flash Point (Method used) .....	163°C (Pensky Martens closed tester) (see, however, "Unusual Fire and Explosion Hazards").
Flammable Limits, LEL .....	Not available.
UEL .....	Not available.
Extinguishing Media .....	Dry chemical or carbon dioxide for small fires, water spray or foam for large fires.
Special Fire Fighting Procedures .....	Keep container cool by spraying with water if exposed to fire. Fight fire upwind. Avoid heavy hose streams. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.
Unusual Fire and Explosion Hazards .....	Fyfanon will decompose when heated to temperatures above 100°C and explosion will under circumstances be induced. The decomposition is to a considerable extent dependent on time as well as temperature due to exothermic and autocatalytic reactions. The reactions involve rearrangements and polymerization releasing volatile, toxic, malodorous and inflammable compounds such as dimethyl sulfide.

---

**SECTION V - Reactivity Data**

---

Stability .....	Fyfanon is stable. Storage at temperatures not exceeding 25°C is recommended.
Conditions to avoid .....	Fyfanon should never be heated above 55°C and also local heating above this temperature should be avoided.
Incompatibility (Materials to Avoid) .....	Strong alkalis and strong oxidizing compounds.
Hazardous Decomposition or Byproducts .....	Thermal decomposition (for instance fire) may produce dimethylsulfide, sulfur dioxide, carbon monoxide, carbon dioxide, phosphorous-pentoxide, nitrogen oxides.
Hazardous Polymerization—May Occur .....	At temperatures above 100°C.
May not Occur: .....	—
Conditions to Avoid: .....	Heating above 55°C.

---

**SECTION VI - Health Hazard Data**

---

Route(s) of Entry—Inhalation .....	LC <sub>50</sub> , inhalation, rat: Above 5.2 mg/l/4H
Skin .....	LD <sub>50</sub> , dermal, rat: Above 2000 mg/kg.
Ingestion .....	LD <sub>50</sub> , oral, rat: 5500 mg/kg.
Health Hazards (Acute and Chronic) .....	Fyfanon is of low mammalian toxicity (cholinesterase inhibitor). It enters the body on contact with all skin surfaces and eyes. Clothing contaminated with material should be removed immediately and all skin washed thoroughly.  Repeated exposures to cholinesterase inhibitors such as Fyfanon may, with out warning, cause increased susceptibility to doses of any cholinesterase inhibitor.
Carcinogenicity—NTP .....	NCI-CG-TR-24 NCI-CG-TR-192: No carcinogenic effects observed.
IARC Monographs .....	Vol 30. 1983: No carcinogenic effects observed.
OSHA Regulated .....	Not available.
Signs and Symptoms of Exposure .....	Some of the signs and symptoms of poisoning are: headaches, nausea, vomiting, cramps, weakness, blurred vision, pin-point pupils, tightness in chest, labored breathing, nervousness, sweating, watering of eyes, drooling or frothing of mouth and nose, muscle spasms and coma.

Medical Conditions Generally Aggravated .....	See under "Health Hazards (Acute and Chronic)".
Emergency and First Aid Procedures .....	<p>Call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to MALATHION and describe his/her condition. Move patient immediately from the area where Fyfanon is present.</p> <p>If breathing has stopped, start artificial respiration immediately and maintain until doctor sees victim.</p> <p>If swallowed and the exposed is conscious make him/her vomit quickly. Have the exposed drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Repeat until vomit is clear. Never give anything by mouth to an unconscious person. Have victim lay down and keep quiet. See doctor immediately.</p> <p>In case of contact, immediately flush eyes or skin with plenty of water while removing contaminated clothing and shoes. See doctor immediately.</p>
Note to Physician .....	<p>Antidote: administer atropine sulfate in large doses. TWO to FOUR mg intravenously or intramuscularly as soon as cyanosis is overcome. Repeat at 5 to 10 minute intervals until signs of atropinization appear. 2-PAM chloride is a pharmacologic antidote and may be administered as an adjunct to, but not a substitute for, atropine which is a symptomatic and often lifesaving antidote. DO NOT GIVE MORPHINE OR TRANQUILIZERS. Fyfanon is a cholinesterase inhibitor affecting the central and peripheral nervous systems and producing cardiac and respiratory depression. At first sign of pulmonary edema, the patient should be given supplemental oxygen and treated symptomatically. Continued absorption of Fyfanon may occur after initial improvement; SUPERVISION OF THE PATIENT IS INDICATED FOR AT LEAST 48 HOURS.</p>

---

## SECTION VII - Precautions for Safe Handling and Use

---

Steps to Be Taken in Case Material is Released or Spilled .....	<p>Sweep up spillage by means of an inert absorptive material such as hydrated limes, sawdust, clay or fuller's earth. Scoop into proper containers and arrange for removal by a licensed contractor. Rinse area with soda lye.</p> <p>(Fyfanon can be hydrolyzed in water by heating and adjusting the pH (alkaline). Fyfanon may also be disposed of through proper incineration).</p>
Waste Disposal Method .....	Spill and Waste disposal procedures approved by state and local authorities must be observed.
Precautions to be taken in Handling and Storing .....	<p>Do not contaminate water, food or feed by storage and disposal. Storage at temperatures not exceeding 25°C (77°F) is recommended. It should never be heated above 55°C (131°F) and also local heating above this temperature should be avoided.</p>
Other Precautions .....	Container disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill. Procedures approved by state and local authorities must, however, be observed.

---

## SECTION VIII - Control Measures

---

Respiratory Protection (Specify Type) .....	Wear a pesticide respirator jointly approved by the local authorities.
Ventilation—Local Exhaust .....	—
Mechanical (General) .....	If handled indoors, provide mechanical exhaust ventilation.
Special .....	—
Other .....	—
Protective Gloves .....	Wear heavy duty, natural rubber gloves.
Eye Protection .....	Wear safety goggles.

Other Protective Clothing or Equipment . . . . .	Wear water-proof pants, coat, hat, rubber boots or rubber overshoes.
Work/Hygienic Practices . . . . .	Persons working with this product for a longer period should have frequent blood tests of their cholinesterase levels. If the cholinesterase level falls below a critical point, no further exposure should be allowed until it has been determined by means of blood tests that the cholinesterase level has returned to normal. Before using this product, consult local authorities for specific recommendations regarding such blood tests.

Keep all unprotected persons and children away from working area.

Before removing gloves, wash them with soap and water. Always wash hands, face and arms with soap and water before smoking, eating or drinking.

After work, take off all work clothes and shoes. Shower, using soap and water. Wear only clean clothes when leaving job. Do not wear contaminated clothing. Wash protective clothing and protective equipment with soap and water after each use. Respirator should be cleaned and filter replaced according to instructions included with respirator.



Oak Hill Park  
1700 Route 23, Suite 210  
Wayne, NJ 07470